



Hot-Button issues for 2010

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- **The DTV transition**
 - **Frequency shortages in radio**



The DTV Transition

What page is the CRTC on?

- The Commission continues to believe that DTV transition is necessary to:
 - ◆ satisfy public demand for HDTV;
 - ◆ avoid viewer losses to US services;
 - ◆ repatriate spectrum.
- So far, the 31 Aug 2011 deadline for analog OTA termination still applies.
 - ◆ However, the Commission recognizes that replacement of all 750+ analog transmitters may be impractical.



The DTV Transition

What page is the CRTC on?

- The CRTC has developed a revised transition strategy, involving the provision of local DTV services via:
 - ◆ OTA delivery in 28 TV markets, requiring:
 - ✦ 55 public-sector transmitters;
 - ✦ 103 private-sector transmitters.
 - ◆ BDU-only delivery everywhere else.
 - ✦ Existing OTA viewers must not be unduly inconvenienced.



The DTV Transition

Key issues for the CRTC

- How can the loss of analog OTA services be made acceptable?
 - ◆ where OTA DTV will be provided:
 - ✦ encourage subsidies for set-top D/A converters;
 - ✦ intensify viewer education efforts.
 - ◆ Where OTA DTV will not be provided:
 - ✦ encourage low-cost or subsidized local-basic cable services;
 - ✦ encourage local-basic “FreeSat” DTH services.



The DTV Transition

Key issues for the CRTC

- What measures might the CRTC use to persuade broadcasters to build OTA DTV transmitters?
 - ◆ Create a more practical mandatory market list & roll-out schedule.
 - ◆ Extend the analog termination date.
 - ◆ Retain beneficial BDU regulatory measures.
(e.g. mandatory carriage & simul-sub)
 - ◆ Create favourable licensing conditions.
 - ◆ All of the above?



The DTV Transition

Key issues for the CRTC

- What might persuade cable and DTH operators to offer free (or cheap) delivery of local basic services to viewers losing OTA?
 - ◆ The opportunity to entice freeview users to subscribe to optional services later on.
 - ◆ Relief from financial obligations associated with the LPIF and/or future “signal value” payments to broadcasters.



The DTV Transition

Key issues for broadcasters

- Building 158 transmitters in 28 “mandatory” markets over the next 1½ years raises concerns re:
 - ◆ human resources availability;
 - ◆ equipment availability;
 - ◆ availability of capital;
 - ◆ regulatory bottle-necks;
 - ◆ achieving adequate public awareness.

The DTV Transition

Key issues for broadcasters

Comparison of CRTC and CAB Capital Cost Estimates for Major Market DTV Transmitter Conversions

	CRTC Study		CAB Study
	All Stations	Private Stations Only	Private Stations Only
No. of TX	158	103	103
Est. Cost (\$M)	123.6	80.5	110.5



The DTV Transition

Key issues for broadcasters

- Would a market-by-market roll-out of OTA DTV be preferable, and if so:
 - ◆ How many implementation phases would be needed?
 - ◆ Can the analog termination deadline be extended to accommodate a phased plan?

The DTV Transition

Key issues for broadcasters

Example of 2-Phase Approach to DTV Transmitter Implementation

	Phase 1	Phase 2
No. of TX	80	78
No. of Markets	9-10	18-19
Est. % OTA viewing	~64%	~22%
Est. Cost (CRTC - \$M)	62.7	60.9
Completed	by Aug 2011	after Aug 2011 (TBD)



The DTV Transition

What's next?

- CRTC's 16 Nov 2009 hearings:
 - ◆ 2 weeks of hearings are planned;
 - ◆ Decisions will probably come in 1Q 2010.
- Revisions to broadcasters' plans:
 - ◆ Assessment of CRTC decisions;
 - ◆ Revisions to OTA transmitter implementation lists;
 - ◆ BDU negotiations, where required;
 - ◆ Applications, where required;
 - ◆ Implementations.

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- **The DTV transition**
 - **Frequency shortages in radio**



Frequency shortages in radio

What's the issue?

- It has become very difficult to find suitable frequencies for new radio stations in Canada:
 - ◆ The largest demand comes from existing broadcasters (e.g. new services & AM/FM flips);
 - ◆ But newcomer “wanna-be’s” continue to apply for radio licences;
 - ◆ CRTC is encouraging new services in “under-represented” categories.
(e.g. community/ethnic)



Frequency shortages in radio

What's the problem?

- Everyone is focused on the FM band because of:
 - ◆ listener preference;
 - ✦ reliable, consistent coverage;
 - ✦ good audio quality + stereo;
 - ◆ ubiquitous receivers;
 - ◆ more manageable costs;
 - ◆ short-comings of other options.



Frequency shortages in radio

What's the problem?

- So the result is a jam-packed FM band in many markets:
 - ◆ Vacant allotments in the FM Plan are scarce.
 - ◆ Any drop-ins that can be found usually have limited coverage.
 - ◆ Many are subject to interference within their 0.5 mV/m contours.
 - ◆ More FM assignments = increased imod, NavCom & other problems in the band.



Frequency shortages in radio

What are the options for the FM band?

- Attempt to add more stations by:
 - ◆ re-farming the entire band;
 - ◆ relaxing co & adj channel protections;
 - ◆ applying a “use-it-or-lose-it” approach to protected coverage;
 - ◆ permitting highly-directional antennas for protection purposes;
 - ◆ forcing existing stations to accept non-voluntary limitations;
 - ◆ employing all of the above?



Frequency shortages in radio

What are the options for the AM band?

- New services might use vacated frequencies still in the Allotment Plan:
 - ◆ High costs may limit this option to well-financed groups;
- The demand for AM flips might be reduced by improving the coverage of existing stations:
 - ◆ Delete related vacant AM allotments to allow existing services to expand.



Frequency shortages in radio

What are the options in VHF bands?

- Re-purpose some hi-band VHF TV spectrum after the DTV transition:
 - ◆ Limitation: TV will continue to use this spectrum, especially in the US.
- Re-purpose Ch 5/6 after the DTV transition:
 - ◆ Limitation: This is a long-term option that would require a common Region 2 approach.



Frequency shortages in radio

What about co-op efforts with TV?

- Piggy-back radio services on Mobile TV services operated on dedicated channels (e.g. MediaFLO) or within local ATSC multiplexes:
 - ◆ Radio's use would be ancillary to TV.
 - ◆ May only be feasible for larger broadcasters.
 - ◆ Would require special receivers.



Frequency shortages in radio

What about using HD Radio?

- Hybrid HD Radio may be able to provide capacity for new programs and/or AM simulcast, but key questions still exist:
 - ◆ Will a power increase make the hybrid multiplex sufficiently robust to fully duplicate analog FM coverage?
 - ◆ Will all hybrid stations be able to employ power greater than -20 dBc?
 - ◆ Will CRTC give licensees full authority over the use of their own multiplexes?
 - ◆ Will receivers become ubiquitous?



Frequency shortages in radio

What about using L-Band DRB?

- L-Band DRB channels are available in all Canadian markets but the long-term future remains unclear:
 - ◆ How much of the 1452-1492 MHz band will remain available after IC's review?
 - ◆ Will CRTC give licensees full authority over the use of their own multiplexes?
 - ◆ How does the receiver availability problem get resolved?



Frequency shortages in radio

What about using WiMAX & LTE?

- Radio programming can be delivered via the internet (WiMAX) or through cell phone networks (3G/LTE), but:
 - ◆ It may take years to expand WiMAX coverage to include entire broadcast markets.
 - ◆ Cell phone delivery implies “gate-keepers” who can limit access.
 - ◆ Cell phone air-time is costly for users.



Frequency shortages in radio

So what can we conclude?

- There is no single, magic-bullet solution to radio channel shortages in Canada.
- Expansion options need to be analyzed and ranked according to feasibility and likelihood of success.
- A multi-approach plan should be developed by broadcasters & regulators working together.



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